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MACROECONOMIC POLICY QUESTIONS: LONG-TERM TRENDS IN SOCIAL AND ECONOMIC DEVELOPMENT

Report of the Secretary-General

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I. INTRODUCTION

1. The General Assembly, in its resolution 43/194 of 20 December 1988, requested the Secretary-General to prepare a comprehensive report, in time for the middle of the Fourth United Nations Development Decade, on the basis of the updated overall socio-economic perspective of the world economy to the year 2000, 1/ and to consider the preparation of a subsequent report towards the end of the Decade selecting for topic-oriented studies the areas of common concern that warranted the special attention of the international community. The present report addresses selected aspects of long-term changes in the world economy to assist the Assembly in its deliberations on long-term sustainable development, in the context of both the International Development Strategy for the Fourth United Nations Development Decade (Assembly resolution 45/199 of 21 December 1990, annex) and the United Nations system's follow-up to several international conferences and negotiations. These include, inter alia, the United Nations Conference on Environment and Development, the Uruguay Round of multilateral trade negotiations, the International Conference on Population and Development, the World Summit for Social Development, and the Fourth World Conference on Women: Action for Equality, Development and Peace.

II. DEMOGRAPHIC CHANGES AND SOME SOCIAL IMPLICATIONS

Main trends in population growth

2. The world's population grew from 2.52 billion in 1950 to 5.28 billion in 1990. 2/ For mid-1995, it is estimated to be 5.72 billion people, of whom 4.55 billion live in the less developed regions. 3/ With the increase in world population projected to be about 88 million per year from 1995 to 2005, the total population is expected to exceed 6 billion by the year 2000. 4/ Almost all of the increase is occurring in what are currently classified as the less developed regions.

3. The levelling off of the annual increase reflects some new data showing that, compared with the rate that prevailed from 1975 to 1990, the growth rate of the world's population has apparently slowed down considerably in 1990-1995. In the economies in transition, the actual decline in the population has been particularly striking. 5/ The extrapolation of present trends would imply a decline in the population of eastern Europe as a whole: from 309 million in 1995 to 290 million in 2050. 6/

4. In the less developed regions, population is estimated to have grown at 1.88 per cent per annum from 1990 to 1995, whereas a rate of 2 per cent was expected for this period by the United Nations as of 1992. The lower rate is partly a result of recent fertility declines in a number of countries of sub-Saharan Africa and South-central Asia. 7/ Fertility for 1990-1995 is estimated to average 5.8 children per woman for Africa as a whole, versus 6.0 projected for this period in 1988 and 1992. Another reason for the lower-than-expected population growth, especially in sub-Saharan Africa, is the effect of acquired immunodeficiency syndrome (AIDS) on mortality. 8/ Nevertheless, fertility and population growth remain high in most of Africa, and the region's

future population trends remain open to speculation, especially for sub-Saharan Africa.

5. The annual growth rate for the less developed regions as a whole is projected, under the United Nations medium-fertility scenario, to decline further, to 1.78 per cent, in 1995-2000, and to continue falling gradually to about 1.27 per cent around 2020 (see table 1). Even with this slow-down, however, world population would grow to 7.9 billion in 2020 and 9.8 billion in 2050. 9/

6. The rate of growth for the least developed countries as a whole has been considerably faster - 2.82 per cent during 1990-1995 - than for the less developed regions as a whole. It is projected to fall more rapidly in these countries than in the less developed regions as a whole, but to remain above 2 per cent until 2020. As a result of their relatively high fertility rates, the least developed countries will continue to have a large share of their population under age 15, challenging their ability to devote enough resources to reach the goals of universal primary education and adequate literacy required for participation in the global economy. Their child dependency ratio was still over 80 per cent in 1995, compared with 57 per cent for the less developed regions as a whole and with only 29 per cent in the more developed regions. In the least developed countries it is projected to remain above 60 per cent until after 2020 (table 2).

Table 1. Population size and growth rates, 1950-2020

Period	World total		More developed regions		Less developed regions			
					Total		Least developed countries	
	Population a/ (billions)	Average annual rate of change (percentage)	Population a/ (billions)	Average annual rate of change (percentage)	Population a/ (billions)	Average annual rate of change (percentage)	Population a/ (billions)	Average annual rate of change (percentage)
1950-1955	2.75	1.78	0.86	1.20	1.90	2.05	0.19	1.91
1970-1975	4.08	1.96	1.04	0.81	3.03	2.37	0.34	2.47
1990-1995	5.72	1.57	1.17	0.40	4.55	1.88	0.58	2.82
1995-2000	6.16	1.49	1.19	0.32	4.97	1.78	0.66	2.74
2000-2005	6.59	1.37	1.20	0.25	5.39	1.63	0.75	2.52
2005-2010	7.03	1.29	1.21	0.21	5.82	1.52	0.84	2.40
2010-2015	7.47	1.20	1.22	0.18	6.25	1.41	0.95	2.28
2015-2020	7.89	1.09	1.23	0.13	6.66	1.27	1.05	2.14

Source: World Population Prospects: The 1994 Revision (United Nations publication, Sales No. E.95.XIII.16), annex tables A.3, A.4, A.8 and A.9. Prepared by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

Note: Projections for 1995-2020 are based on the medium-fertility variant.

a/ At end of period.

Table 2. Dependency ratios, a/ more, less and least developed regions, 1950-2020

(Percentage)

Regions/country group	1950	1970	1990	2000 b/	2010 b/	2020 b/
More developed						
Children	42.2	40.5	30.8	27.9	26.2	26.7
Elderly	12.1	15.4	18.6	21.0	22.8	28.1
Less developed						
Children	64.7	76.8 c/	59.1	54.2	47.0	41.8
Elderly	6.6	7.0	7.4	8.2	8.7	10.7
Of which						
Least developed						
Children	74.4	83.9 d/	83.6 d/	79.3	71.6	61.6
Elderly	6.0	5.7	5.7	5.6	5.7	6.0

Source: World Population Prospects: The 1994 Revision (United Nations publication, Sales No. E.95.XIII.16), annex tables A.30 and A.31. Prepared by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Number of children (aged 14 or under) or number of elderly (aged 65 years or over) as a proportion of the working-age population (age group 15-64).

b/ Projections based on the medium-fertility variant.

c/ Peak was 77.0 in 1965.

d/ Peak was 85.9 in 1980.

Changes in infant and child mortality 10/

7. Past improvements in nutrition, sanitation, health care and women's education have already led to dramatic reductions in infant and child mortality in all regions in recent decades. Globally, the infant mortality rate (IMR) dropped from an average of 156 per 1,000 live births during 1950-1955 to 79 per 1,000 live births in 1980-1985 and 64 per 1,000 live births during 1990-1995. The gap in infant mortality between the less developed and more developed regions narrowed by 50 per cent between the early 1950s and the early 1990s, but the least developed countries lagged behind (table 3). The mortality rate among children under age 5 in the developing countries as a whole went down from 113 per 1,000 in 1985 to 94 per 1,000 in 1993, owing largely to a 35 per cent drop

in vaccine-preventable deaths, 13 per cent fewer deaths from acute respiratory infections, and 10 per cent fewer deaths from diarrhoea.

Table 3. Infant mortality rate, 1950-2025

(Deaths per thousand live births)

Period	World average	More developed regions	Less developed regions	
			Total	Least developed countries
1950-1955	156	59	179	194
1970-1975	93	21	104	147
1980-1985	79	15	88	131
1990-1995	64	10	70	110
1995-2000	57	9	63	101
2000-2005	51	9	56	92
2005-2010	46	8	50	82
2010-2015	40	7	44	73
2015-2020	36	7	39	64
2020-2025	31	6	34	56

Source: World Population Prospects: The 1994 Revision (United Nations publication, Sales No. E.95.XIII.16), annex tables A.28 and A.29. Prepared by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

8. Many countries have already reached the World Health Organization (WHO) targets for the year 2000 of infant mortality of 50 or less per 1,000 live births. However, at least 56 of the countries for which data are available have not yet been able to do so, and there are at least 15 other countries without adequate data for which infant mortality is estimated to be above 50. These 71 countries, with an IMR of 50 or more per 1,000 live births, account for almost 45 per cent of the world's population. 11/ There are striking variations within, as well as between, regions. In the Caribbean area, the IMR in 1993 ranged from 12 in Cuba to 85 in Haiti. In Thailand it was 36, while in Bangladesh it was almost 107. For most countries, the IMR remains the best available overall indicator of health and development status. Low income per capita need not impose high infant and child mortality. Several developing countries, notably China and Sri Lanka, have achieved rates that are comparable with those of some developed countries.

9. Projections indicate that the IMR will decline steadily both in the world as a whole (to an average of 51 per 1,000 live births in 2000-2005, and to 31 per 1,000 live births in 2020-2025) and in the different regions (table 3).

Ageing and health care for the elderly 12/

10. The increase in the number of old people in the world will be one of the most profound forces affecting health and social services in the next century. The population over age 65 is increasing by 2.7 per cent annually, and there will be a dramatic rise in the proportion of people over age 80, especially in the developed market economies, where this proportion recently ranges between 13 and 18 per cent. Among the developing countries, there will be up to fourfold increases in the number of people over age 65 during the next 30 years.

11. Although mortality rates will fall more in the less developed regions, the more developed regions face a more immediate, and sharp, increase in the share of their population that is elderly. In the latter, the ratio of the elderly to the working-age population reached 18.6 per cent in 1990, and is projected to reach 21 per cent in 2000 and 28 per cent in 2020, putting great pressure on real output and public and private financial mechanisms to support this section of the population.

12. Advances in health technology have extended life. Continuing increases in life expectancy are expected, especially in the developing countries - about three years per decade in the less developed regions as a whole, and more than four years per decade in the least developed countries, during 1990-2025. Yet advancing age brings growing physical disabilities, 13/ and can bring financial hardship and even severe poverty. The question of how to care for the elderly will increasingly confront health services around the world, and society as a whole.

13. More attention must be given to social mechanisms for the support of the elderly and the means to fund them. It could be difficult for many countries to provide the funds and real output needed to enable the elderly to live a secure and dignified life, especially at a time of rising medical costs. How to provide long-term care to the frail elderly is becoming one of the most hotly debated medical and political issues in many developed countries. The development world will soon have to deal with these issues. However, the matter of ageing need not be medicalized, and making the ageing population a resource for the community and health services can enable the members of that population to live in dignity and reduce the impact on society. 14/

International migration 15/

14. International migration is widely recognized as an intrinsic part of the development process, being a response to differences in wages and labour-force supply and demand between countries. There is agreement that for countries experiencing a shortage of labour, immigration has a significant and positive effect on economic growth, but its effects are less clear in a context of rising unemployment. During the 1950s and 1960s, the economic expansion of the market economies of Europe led to labour shortages that were counterbalanced by the admission of foreign workers. By 1965, Europe was hosting 15.6 million

international migrants. The rise in oil prices that took place in 1973-1974 and the recession that ensued led to the discontinuation of labour migration into Europe and to the expansion of labour migration in the oil-producing countries of western Asia. Between 1975 and 1985, the number of international migrants in northern Africa and western Asia increased by 6 million, reaching 13.4 million. During the same period, the number of international migrants in Europe increased by only 3.7 million, mostly through family reunification, though particular countries experienced large inflows and outflows of people. In the traditional countries of immigration (Australia, Canada, New Zealand and the United States of America), the number of international migrants increased by nearly 6 million. In the developing world, most increases were modest, except in northern Africa and western Asia, and in Southern Asia where major refugee flows, especially from Afghanistan, were responsible for a rise of 3.6 million in the number of international migrants amounting to a total of over 19 million in 1985. 16/

15. Since 1985, partly as a result of the events that led to the end of the cold war, the market-economy countries of Europe have been experiencing increased migration intakes related to the continuation of family reunification, the admission of persons whose ethnic background qualifies them as citizens of certain countries, and the increase in persons seeking asylum. Data for Belgium, western Germany, the Netherlands, Sweden and the United Kingdom of Great Britain and Northern Ireland allow the measurement of international migration flows; during 1985-1989 these five countries as a whole gained, on average, 460,000 persons every year through migration. 17/

16. The reconfiguration of nation States that has taken place since 1989 has had important implications for both internal and international migration. Thus, the reunification of Germany transformed into internal movements some that had been international, but the disintegration of the former Yugoslavia and the former Union of Soviet Socialist Republics internationalized movements that used to be internal. According to the 1989 census of the former Soviet Union, 25.3 million ethnic Russians lived outside the Russian Federation, and return flows began soon after the dissolution of the Soviet Union. In 1991, 43 per cent of the population increase in the Russian Federation was attributable to net migration gains. 18/

17. Another important development in recent years has been the increase of migration directed towards some of the countries of Eastern and South-eastern Asia whose expanding economies have been experiencing labour shortages. Because of the reluctance of Governments to admit migrant workers legally, irregular flows have been common. 19/

18. Concern about the growing potential for undocumented migration is shared by most receiving countries, especially since few countries have policies envisaging the legal admission of sizeable numbers of migrants. Between 1976 and 1994, the number of countries that considered their levels of immigration to be too high increased from 10 to 39. European countries, in particular, faced with persistently high unemployment, consider that, despite their ageing populations, they are unlikely to experience the kind of labour shortages that would prompt them to again resort to labour migration on a large scale. In a number of receiving countries, concern has been expressed about the impact that migrants can have on the employment opportunities or earnings of domestic

workers, and on government expenses for welfare services. 20/ Where data are available on the issue, migrants do not appear more likely than non-migrants to use welfare services when account is taken of the demographic characteristics of the two groups. A related issue is whether the welfare costs attributable to migrants are balanced by their contribution to public revenues, but studies on that issue have tended to be inconclusive. 21/

19. Although the avenues for legal voluntary migration are expected to remain few and restricted in the near future, family reunification is likely to continue being an important avenue for further migration to developed countries. Because migrants admitted only on a temporary basis usually have no right to be accompanied by close relatives, to the extent that migration between developing countries is allowed mostly under temporary worker schemes, family reunification will not be a major factor fuelling international migration among those countries.

20. Another likely promoter of international migration is the trend towards globalization, which involves growing financial, trade and investment linkages between countries. Both developed and developing countries have been admitting the foreign skilled personnel required to enhance economic efficiency and acquire technological proficiency. The recent negotiations on a General Agreement on Trade in Services (GATS) have included provisions that would reduce barriers to the international movement of persons involved in the provision of the services. 22/ A growing number of skilled migrants are finding employment in developing countries whose economies are growing. 23/ In contrast, very few countries, whether developed or developing, are willing to admit substantial numbers of unskilled foreign workers.

21. To be effective, international migration policies should be related to other, more general, processes that affect the world economy, such as the growing role of transnational corporations, the increasing flows of technology and capital, and improvements in transportation. 24/ Expanded trade between countries of emigration and receiving countries in the developed world is probably the single most important strategy to reduce migration pressures in developing countries in the long run. 25/ As the cases of the Asian newly industrialized economies illustrate, however, rapid development and trade growth have often been accompanied by substantial emigration. 26/ Yet, if development is successful, such potential for emigration will result in international mobility only if conditions in receiving countries warrant it.

III. LONG-TERM ECONOMIC GROWTH: DETERMINANTS AND PROSPECTS

Major findings of the previous report

22. The main projections and policy assumptions behind the previous report of the Secretary-General on the socio-economic perspectives provide a background to the present assessments. 27/

23. During the first years of the decade, the developed market economies had a recession first in one group of countries and then in another, with weak

recovery in all. Thus growth was less than projected on average (table 4). By the mid-1990s, however, growth in the developed market economies had recovered and the rest of the decade could see rates of economic growth approaching those foreseen for the decade as a whole.

Table 4. Gross domestic product (GDP) projections as made in 1990 and mid-decade estimates: annual average growth rates

(Percentage)

	Projections			
	1986-1990	1991-2000	1990-1994	1995 a/
World	3.3	3.5	1.3	2.9
Developed market economies	3.0	3.1	1.7	2.8
Economies in transition	2.7	3.6	-9.8	-4.0
Developing countries	3.4	4.3	4.3	5.0
North Africa	2.7	4.8	1.8	3.0
Sub-Saharan Africa	2.3	3.2	0.6	3.0
Latin America and the Caribbean	1.4	2.9	2.5	1.8
West Asia	0.3	4.2	2.0	1.8
South and East Asia	6.6	6.1	5.8	7.0
China	8.0	5.6	10.0	10.0
Least developed countries	3.5	3.1	2.6	b/

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Estimates, based in part on Project LINK (International Research Group of Econometric Model Builders, with headquarters at the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

b/ Data unavailable.

24. The previous report failed to anticipate the economic decline in what are now the economies in transition. Some of these countries had begun in the late 1980s to adopt market-friendly policies in place of central planning. This transition was expected to lead to an acceleration of growth. The fact was that in the short term, the transition led to a decline in output.

25. The previous report's estimate for economic growth in the developing countries as a whole was the same as the actual results for 1990-1995. The remarkable economic growth - of about 6 per cent - in the countries of South and East Asia, was expected to continue and it did. Similarly, Latin America and the Caribbean were expected correctly to see moderate growth. However, it was thought that China's rapid growth would slow down as bottlenecks developed; instead it accelerated.

26. The report foresaw an acceleration in the modest growth in north Africa and sub-Saharan Africa. Drought and weak commodity prices, which were partly the result of the sluggish growth in the developed market economies and the situation in the economies in transition, were among the many factors behind the shortfall. West Asia's growth was weaker than anticipated largely because of weak oil demand.

27. The discrepancies between the previous report's projections and the outcome as they have emerged so far reflect not only difficulties in anticipating cyclic factors and, as in Africa, weather patterns, but also abrupt changes in economic institutions and their short-term effects on growth.

28. The previous report identified many of the factors shaping world development. Rapid progress in globalization and in technical change were foreseen. However, the extent of integration of the developing countries as a group into the world economy was underestimated and the rate of growth of international trade was underestimated at 4.5 per cent.

29. In its conclusions, the previous report emphasized the importance of investment in human capital. The report also called for greater financial and monetary stability in the world economy. The emphasis on these issues has been reinforced by events. The previous report also stressed that the outlook for the 1990s would depend not only on economic but also on political and social progress. Since then, experience in the economies in transition and in an increasing number of countries indicates not only the importance of the political environment, but also the difficulty of forecasting the direction and outcome of dramatic changes in this environment.

Recent economic changes

30. Beneath the apparently modest performance of the world economy in the early years of the decade were upheavals in politics, economics and technology which will have a far-reaching impact on the future prosperity for the world. The changes include the increasing global integration of economic activities and market-oriented institutional reforms in many economies. An unprecedentedly large number of economies are adopting market allocation systems and almost every country is seeking the appropriate way to adapt its economy to global competition. The long-term implication of these changes for the world economy may not yet have been fully grasped, in terms of their impact on world income, trade, commodity prices and global capital markets.

31. The most noticeable evidence for increasing integration of the world economy in the last five years has been the substantial increase in world trade relative to world production. There has been great progress in the liberalization of the international trading system, both at the multilateral and at the regional levels. The successful conclusion of the Uruguay Round of multilateral trade negotiations has bolstered confidence in the multilateral trading system which risked being eroded in the decade-long battle with the "new protectionism", whose features included various forms of non-tariff barriers and bilateral negotiations to restrict trade to particular products. Despite the recession in many developed market economies and the economic set-backs in the economies in transition, world trade volume expanded 3.9 times faster than world

output in 1990-1994, compared with 1.8 times faster in 1985-1989. This acceleration of world trade growth implies an intensification of the international division of labour and a general improvement in world economic efficiency.

32. There has also been a rapid expansion of global capital markets and, as a result, a surge of foreign investment in the last few years. Capital has become more mobile than ever across the world, owing to a combination of policies that encourage foreign investment in many developing economies with the rapid advance in computer-based telecommunication technology; and the growth in the size of institutional investors (mutual funds, pension funds, and so on). Net capital inflows to developing economies had doubled in five years and reached about $200 billion in 1994; a large proportion was private investment. Non-debt foreign capital increased significantly.

33. For most developing economies in Asia, success in maintaining their growth rates lies in continuing their high levels of domestic savings, in broadly based human capital development, in improving the competitiveness of domestic markets, in their openness to foreign capital and technology, and in improved macroeconomic management.

34. Many countries in Latin America and the Caribbean saw successful recovery from the hyper-inflation and the debt crises of the 1980s as a result of both large-scale fiscal adjustments to reduce their budget deficit and the achievement of a measure of stability in real exchange rates. This was associated with substantial inflows of capital which were, in turn, attracted by market-oriented reforms in the domestic economy and trade liberalization policies. Debt negotiations, through the Brady Plan and other arrangements, also helped many of these countries. Continued progress in implementing market-oriented reforms is expected to sustain resilient economic growth.

35. In the last five years, most developed economies have continued their policies of fiscal consolidation in order to reduce their budget deficits. Together with the prudent monetary policy pursued by major central banks, this has led to historically low inflation rates, even in the latest phase of cyclic recovery. These low rates of inflation have contributed to low inflation internationally and thus to relatively low long-term international interest rates. 28/

36. There is still concern over the progress of transition in eastern Europe and the former Union of Soviet Socialist Republics, although the upturn in these countries appears ever more firmly rooted. The advent of democracy in South Africa and economic and political reforms in many countries throughout the African continent, as well as the cessation of some conflicts, give grounds for cautious optimism concerning sub-Saharan Africa.

37. Other uncertainties are whether macroeconomic management will become more difficult in some developing economies, where the scope of domestic policies has become more restricted as a result of greater economic openness and global integration. This could make those economies more vulnerable to external shocks, such as a sudden reversal of short-term capital inflows.

38. A main driving force behind many recent political and economic changes was the acceleration in technological innovation, especially the revolutionary changes in information technology. Technological innovations will not only improve productivity and economic structures, but they will also have an important impact on economic institutions and will bring changes in social superstructure. 29/

Current prospects

39. There are grounds, then, for optimism as to the future of the world economy. A major issue is whether there will be "convergence" in the world economy, the poorer countries achieving faster economic growth than the richer. There are many reasons to think that they would: as they have low capital-to-labour ratios, the marginal returns to investment should be high, and this would encourage investment, including foreign direct investment. They should be able to take advantage of the technology already available to "catch up", and their labour forces should become more productive not just through rising education standards but also through "learning by doing" as new production techniques are introduced, often by foreign investors.

40. Historically, there has indeed been convergence among certain groups of countries and it has taken place faster among open economies which do not have barriers to trade and investment flows. 30/ This convergence was seen among what are today developed countries or regions - the poorer States of the United States closed the gap between themselves and the wealthier States and, after the Second World War, the European market countries and Japan began to "catch up" with the United States. Convergence is now being seen in many Asian countries and, to a lesser extent, in Latin American countries: their growth has recently been faster than that of the developed market economies.

41. However, convergence between economies is not characteristic of the world as a whole. Research on the above-mentioned areas emphasized that investment in education and in research and development could contribute to more rapid growth. Technological advance is endogenous to the economies and does not flow freely into all economies; it has to be "bought" with investments on human capital and the adoption of technology.

42. These considerations can help explain why many poor countries did not grow more rapidly. Some research highlights the importance of policies and institutions. 31/ For the developing countries, as for the economies in transition, the major question is not the more efficient operation of existing markets, but how to develop markets that would allow them to capture the potential gains from specialization and the division of labour; this is not a matter of transferring the formal economic and political rules of the successful countries to other countries. The operation of markets, including the mechanisms to enforce contracts, does not come from formal rules alone since it is "the admixture of formal rules, informal norms and enforcement characteristics that shapes economic performance". 32/

43. The example of countries that are able to choose the right admixture indicates that success can come very quickly and lead to gains that are quite beyond those that could have been expected from their historical record. It is

precisely because the uncertainties are greatest in the poorest countries that any projections based on their past performance are most subject to error. For them, economic development will entail a radical change, as the examples of China and the economies in transition demonstrated.

44. The importance of the agricultural sector in assisting this radical break from the past can hardly be exaggerated. The agricultural sector is not just a source of income and a large sector of the economy; indeed, as the example of Asia shows, increases in agricultural production can themselves lead to rising nutritional standards. These raise the ability of the population to work which, as historical studies have confirmed, can be a major source of growth. 33/ If technological advances along the lines of the Asian green revolution and the development of markets lead to sustained agricultural gains in Africa, a more optimistic outlook for the continent would be justified.

45. As can be seen from the preceding discussion and the historical record (table 5), it would be presumptuous to claim that any long-term projections for the world economy are precise estimates of what will happen as a result of a clearly defined set of policy measures: they can serve only as an indicator of what may be expected in the future if conditions are favourable (high-growth scenario) or unfavourable (low-growth scenario). (Table 6 presents some of these projections from international sources and from the Secretariat.)

46. A high-world growth scenario assumes a renewed impetus for development and a supportive domestic environment for economic growth in all countries. 34/ With a strong commitment to development objectives, trade liberalization and growth promotion policies, world economic performance will improve. Supporting this assessment is the current attention paid to problems of economic adjustment, restructuring and reform, and the emphasis on the need to deal with fiscal deficits and external imbalances. Lower real interest rates, due to an improvement in the financial condition of enterprises and households, will stimulate investment. Over the longer term, progress in technology should also spur investment within and between all countries, upgrading the technical capacity of the developing countries.

47. The expansion may be slower than expected in the high-growth scenario, given the current size of fiscal, trade and structural imbalances. It is also possible that domestic policies, rather than stimulate economic growth across all sectors of production, will focus on a few sectors associated with rapid technological advance. Thus, a low-world growth scenario assumes an unlikely failure to adjust to the challenges posed by a transition to modern technology in both the developed and the developing countries. For many countries, it examines the possibility that their rates of growth will continue to slow down in the future as structural rigidities and extensive imbalances hinder the adjustment process and constrain the expansion of world markets. In the case of the countries of eastern Europe and the successor States of the former Soviet Union, it assumes that the transition to market-oriented institutions is unsuccessful over the medium term.

Table 5. Growth of gross domestic product (GDP) and of GDP per capita in the world economy, 1966-1995 a/

(Percentage)

Region	Average annual rate of growth of GDP			Average annual rate of growth of GDP per capita		
	1966-1975	1976-1985	1986-1995	1966-1975	1976-1985	1986-1995
World	4.5	3.0	2.1	2.5	1.2	0.4
Developed market economies	3.7	2.8	2.4	2.8	2.1	1.8
Economies in transition	6.8	3.6	-3.6	5.8	2.8	-4.1
Developing countries	7.1	3.4	3.8	4.5	1.3	1.7
Least developed countries	2.4	2.8	2.6	-0.1	0.1	-0.2
China	9.7	7.6	8.0	5.3	7.2	8.0

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Measured in 1990 prices and exchange rates.

Table 6. Comparison of long-term projections of annual rates of GDP growth for the world economy

(Percentage)

	Source				
	Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat a/				
	Low-growth scenario	High-growth scenario	World Bank b/	International Energy Agency c/	International Monetary Fund d/
World total	2.1	3.7	3.3	3.0	4.3
Developed market economies	1.7	3.1	2.8	2.4	2.7
Developing countries	3.3	5.0	5.2	5.1	6.2
Economies in transition	1.3	5.1	3.5	1.4	5.5

a/ Projections being for the period 1996-2010.

b/ See World Bank, Global Economic Prospects and the Developing Countries, 1995 (Washington, D.C., World Bank, 1995), p. 6, table 1-1. Forecasts were for the period 1995-2004; figures for the developed market economies refer to high-income industrialized countries.

c/ See International Energy Agency (IEA), World Energy Outlook to the Year 2000 (Paris, Organisation for Economic Cooperation and Development (OECD), 1993), reference scenario in table B on economic growth assumptions. The assumed rates of GDP growth were for the period 1991-2010. The figures for the developed market economies refer to OECD. Table B refers to three sources of information, namely, the World Bank, the International Monetary Fund (IMF) and OECD. See also summary of discussions of a conference organized in 1991 by the OECD Forum for the Future in Long-Term Prospects for the World Economy (Paris, OECD, 1992).

d/ See IMF, World Economic Outlook (IMF, May 1995), p. 46, table 9. Medium-term projections were for the period 1995-2000. GDP is measured in purchasing-power parities (PPPs). The figures for the market economies refer to industrialized countries. The figure for the economies in transition is estimated on the basis of the weights of the regions and the rates of growth of the world and the two other regions.

48. In the high-growth scenario, as output levels rose and trade flows enlarged, the large disparities among and within different groups of countries would lessen, and a high and sustainable rate of expansion would be attained in all areas of the world. In this evaluation, world economic growth is projected at 3.7 per cent a year in the medium-to-long-term, with growth in the transition and developing countries significantly higher (table 6). A marked improvement projected for the least developed countries depends critically upon the successful implementation of policies designed to alter current patterns of resource allocation and upon international measures.

49. The low-growth scenario assumes a slow-down in world productivity growth in the years ahead. Under these circumstances, it is difficult to see how current high rates of unemployment could be reduced and demands for protection against imports, especially from the developing countries, resisted. Given the difficult situation that many developing countries have faced since the mid-1970s, it is questionable whether they would have the economic resilience necessary to "respond" to this worsening external environment.

Central and eastern Europe: catching up or falling behind?

50. Since the end of the cold war, many of the transition economies have transformed themselves rapidly, moving towards a free-market model. However, because of the speed and extent of these changes, it is difficult to foresee those economies' long-term development paths. Their economic growth will depend on their domestic economic policies and also on their degree of integration into the world economy.

51. For the countries of central and eastern Europe, the speed of closing their income and technological gaps with western Europe will be largely determined by their medium-to-long-term balance-of-payments constraints. 35/ Available evidence for countries that have undergone the process of relatively rapid catching up with the advanced economies suggests that the balance-of-payments constraint has been a significant feature. Such constraints will be especially important for central and eastern Europe because most of these countries have small, open economies, which have to minimize the use of trade policy instruments in order to meet the conditions set for an early integration with the European Union (EU).

52. International trade models show that, for economies that export products the demand for which is (a) growing more slowly than income in the countries they export to and (b) sensitive to prices, and that import products the demand for which has the opposite characteristics, the exchange rate plays a central role in maintaining the competitiveness of exports. 36/ This role is very important in the early phase of economic transformation, when enterprises in these economies have to operate in a rapidly changing, highly uncertain environment and when, partly owing to this uncertainty, investments decline rapidly. 37/

53. To reduce these asymmetries in price and income elasticities, central and eastern European countries will have to increase the proportion of capital-, research and development- and skill-intensive exports. In the Czech Republic, Slovakia and Hungary, there has been a significant shift towards more research

and development-intensive export products and an expansion of intra-industry trade with western Europe since 1989. 38/ For the other countries, such a shift is not yet detectable.

54. Models of international trade and the experience of fast-growing developing countries also imply that in order for the transition economies of central and eastern Europe to achieve long-term growth rates significantly higher than those of the developed economies, which by now have become their major trading partners, continuous and rapid improvement will be needed in their exports. To continuously upgrade their technologies requires technological transfer from developed countries and large investments. Besides domestic accumulation of capital and sufficient export earnings, capital inflows will be vital for the scale of investment needed.

55. The export competitiveness and trade balance of these countries will also be strongly influenced by their exchange rate, fiscal and monetary policies. If domestic producers lack sufficient internal and/or external financial resources, the chances for catching up with the West will be small. To stimulate new investments, Governments in transition economies will have to pursue prudential fiscal policies that do not crowd out enterprises from domestic capital markets and tax policies, including regulations on social security funding that leave producers with sufficient profits.

56. The central and eastern European economies, unlike many rapidly developing economies in the recent past, will have to operate in an environment where liberalized domestic financial markets are rapidly integrated into international financial markets. Proper policies aimed at creating a relatively stable macroeconomic environment can be of great help, in managing not only the merchandise trade balance but also the balances on invisibles and capital flows.

57. Within the overall balance-of-payments constraint, the importance of components other than trade of goods is increasing for many countries. There are sizeable differences in the extent to which central and eastern European countries have been able to compensate deficits in their merchandise trade balance by means of surpluses in other accounts. The Czech Republic, Hungary, and Slovenia already have substantial net incomes from tourism; the Czech Republic and Poland have substantial incomes from personal transfers; and the Czech Republic and Hungary have attracted sizeable foreign direct and portfolio investments. 39/ On the other hand, debt-servicing remains high in Hungary and Poland.

58. Several simulations suggest that, under a wide range of assumptions, central and eastern Europe as a whole will to some extent narrow the income gap between itself and the developed market economies. 40/ Catching up will be by no means automatic, however, especially for economies with fragile balance-of-payments positions and with Governments committed to limited use of protectionist measures.

Income distribution and living standards

59. Gross domestic product (GDP) per capita is a frequently used measure of the level of development. Its use for comparisons of inequality among countries can be potentially misleading, however, because alternative methods of converting estimates of GDP in local currency into a common unit of account can lead to different rankings of the countries studied. 41/ Moreover, the method of conversion used may, or should, be based on the purpose of the comparison. If differences among countries' living standards are the focus of the comparison, then a purchasing-power parity (PPP) exchange rate is regarded as the most appropriate method, as it values the commodities and services sold in each country at a set of common international prices, rather than at local prices multiplied by the value of the national currency determined in the foreign exchange market. Use of a PPP conversion method when translating national currency estimates of GDP per capita typically reduces the apparent difference in GDP per capita between high-income and low-income countries. None the less, the differences remain large, whatever exchange rate is used. For example, the per capita GDP (measured in PPP) in North America, remained about four times that in Latin America and the Caribbean between 1970 and 1991. The difference increased from 14 times to 22 times the per capita GDP of sub-Saharan Africa but declined from 15 times to 9 times the per capita GDP of South and East Asia. When measured in market exchange rates, GDP per capita in North America is roughly 8 times that in Latin America and the Caribbean; it rose from 25 times in 1970 to 41 times in 1991 the level in sub-Saharan Africa and remains about 41 times that in Asia.

60. For a given country, GDP per capita in local currency is often used to define a poverty threshold for the current year. 42/ From a policy perspective, it is important to know how many people in a country actually live below some poverty threshold and how this number has changed over time. The concept of poverty can be seen in both absolute and relative terms. Income thresholds, typically specified as some level of per capita income, are used in the analysis of absolute poverty, whereas relative poverty is analysed in terms of the degree of inequality of income distribution among a population of individuals or households. In developing countries, absolute poverty is usually regarded as the more pressing problem, while in developed countries there is more concern about the extent of relative poverty. However, a higher-income country with a high degree of inequality may have a larger share of its people below a given income level than a lower-income country with a more equal distribution of income. Inequality is not always regarded as a negative phenomenon, since it may be related to incentive structures or to the age distribution of the population. However, it may be considered undesirable if there is little or no income mobility, that is, if the same groups in the society have a disproportionate share of its total income, generation after generation.

61. Significant progress has been made in reducing the number and share of households with low incomes in South and East Asia during the last few decades. It has been estimated, for example, that the fraction of the East Asian population living in absolute poverty fell from one third to one tenth between 1970 and 1990. 43/ Much of the reduction is accounted for by China, which experienced an average annual growth rate of GDP of over 8.5 per cent during the 1980s. Poverty in India during the 1980s is estimated to have fallen from 53 to

41 per cent of the rural population and from 46 to 34 per cent of the urban population. 44/ While growth played an important role in reducing poverty rates in Asia, it was broad-based growth that created employment for the poor as well as for the better-off groups of the population. 45/

62. For Latin America, on the other hand, the available data indicate that, in seven of twelve countries, income inequality worsened during the 1980s and there were only slight changes in the early 1990s. 46/ Inequality decreased somewhat in urban areas of Argentina, Honduras, Mexico, Panama and Uruguay during 1989-1992, but overall inequality remained the same in Bolivia and Chile, and even worsened slightly in Colombia, Costa Rica, Paraguay and Venezuela. It is estimated that the total number of people living in poverty in Latin America increased from 112 million in 1980 to 164 million in 1986, although changes in income distribution were only partially responsible for the increase. 47/ Demographic trends, the economic slow-down in the region and cuts in public spending, all contributed to the increase. 48/ The more rapid pace of economic growth in the early 1990s, coupled with a slow-down in inflation and an increase in employment, has resulted in a significant decline in the number of people living below the poverty line in Argentina, Bolivia, Chile, Mexico, Uruguay and Venezuela. 49/ The percentage of households living in poverty decreased between 4 per cent and 6 per cent in these countries over a period of two years. As in the case of Asia, the reduction in Latin America was more the result of economic growth than of changes in income distribution.

IV. SECTORAL CHANGES IN THE WORLD ECONOMY

63. The process of world-wide structural change is driven by technical advance and increased global interdependence. There is much potential for further sweeping changes and geographical shifts in the loci of production, as the developing countries adapt to technological advances, especially large countries with a latent export potential, and as the economies in transition begin to expand, especially those situated in proximity to major world markets.

Shifts in world production

64. A large-scale change in the output structure has occurred in all regions; by 1992 agriculture accounted for only 7 per cent of the world product, compared with almost 14 per cent in 1960, while services reached 58 per cent (table 7). In the developed market economies, technical advance accompanied the growth of the service sector and a reallocation of employment from traditional industries such as textiles and wearing apparel, and energy-intensive industries such as iron and steel, towards high-technology manufacturing such as pharmaceuticals, semiconductors, computers, office equipment and communications.

Table 7. GDP structure by main producing sectors in major world economic regions, 1960 and 1990

(Percentage)

	Agriculture	Industry a/		Services	GDP
		Total	Manufacturing		
	Share in gross domestic product, 1960 b/				
World	13.7	40.8	25.5	45.7	100.0
Developed market economies	6.4	41.3	30.4	52.2	100.0
Economies in transition	20.3	49.7	18.9	30.0	100.0
Developing countries	31.1	27.3	16.6	43.1	100.0
Least developed countries	50.9	13.9	5.4	32.9	100.0
	Share in gross domestic product, 1990 b/				
World	6.9	34.3	21.9	58.1	100.0
Developed market economies	2.5	33.2	22.6	63.7	100.0
Economies in transition	17.2	42.2	18.3	39.6	100.0
Developing countries	18.1	34.2	21.2	46.7	100.0
Least developed countries	40.8	17.4	9.6	42.1	100.0

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Comprising mining and quarrying, manufacturing, utilities and construction.

b/ Measured in 1990 prices and exchange rates.

65. With the technology diffusion to the developing countries, the share of the developed market economies in manufacturing declined from 87 per cent in 1960 to only 77 per cent in 1992 (table 8). Developing countries in South and East Asia significantly expanded such technology-intensive industries as machinery, and chemicals and plastics. 50/ Petroleum refining and some chemical industries were established in the petroleum-exporting developing countries. In petroleum refining and mining, about 25 per cent of the total capacity of the developed market economies "shifted" to the developing countries, mainly to Latin America. There were also relative shifts of 15-20 per cent from the developed market economies to the developing countries of world production in textile and wearing apparel, in non-ferrous metals and steel production. The countries of South and South Asia increased their share of world market-economy manufacturing from less than 3 per cent in 1960 to 6½ per cent by 1992.

Table 8. Share of major world regions in world manufacturing value added, a/ 1960 and 1992

(Percentage)

	Share in world manufacturing value added of					
	Technology-oriented manufacturing branches		Non-technology-oriented manufacturing branches		Total manufacturing	
	1960	1992	1960	1992	1960	1992
World	100.0	100.0	100.0	100.0	100.0	100.0
Developed market economies	91.0	81.2	83.2	71.3	87.0	77.0
Economies in transition	4.6	6.5	7.3	8.8	6.0	7.5
Developing countries	4.4	12.3	9.5	19.9	7.1	15.5
Least developed countries	0.0	0.1	0.2	0.3	0.1	0.2
China	b/	3.0	b/	3.8	b/	3.3

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

Note: The technology-intensive group comprises the chemical industry (including industrial and other chemicals and coal, rubber and plastic products), the non-ferrous metals industries and the manufacture of fabricated metal products, machinery and equipment, and other manufacturing activities. The non-technology-intensive group consists of branches producing non-durable consumer goods such as the food industry (comprising food, beverages and tobacco) and the textile industry, branches producing consumer goods such as the wearing apparel, leather and wood and furniture industries, and branches producing intermediate outputs such as non-metallic minerals, petroleum, paper and printing, and the iron and steel industries. This grouping scheme follows an OECD classification of industries ranked by research-and-development-related intensiveness. See "Research and development, invention and competitiveness", Science and Technology Indicators, No. 2 (OECD, 1986), p. 56.

a/ Measures in 1990 prices and exchange rates.

b/ Data unavailable.

66. These interregional shifts were accompanied by large-scale domestic restructuring in most regions. In the developed market economies, the share of the manufacturing sector fell from 30 per cent of their GDP in 1960 to only 23 per cent by 1990; but their high-technology industries expanded from 51 per cent of their total manufacturing in 1960 to over 60 per cent in 1992 (table 9). In the developing countries as a whole, the share of manufacturing in GDP rose from 17 per cent in 1960 to 21 per cent in 1990, and the share of agriculture fell from over 31 per cent to a little more than 18 per cent, but in the least developed countries, manufacturing is still less than 10 per cent of their GDP and consists largely of food processing and natural fibre textile industries, which cannot expand vigorously without a strong agricultural sector. In the economies in transition, industry has declined significantly since 1990, but a radically restructured manufacturing is expected to revive over the longer term.

Table 9. Share of technology-oriented manufacturing in total manufacturing value added, a/ by regions, 1960 and 1992

(Percentage)

	1960	1992
World	48.7	57.6
Developed market economies	50.9	60.7
Economies in transition	37.2	50.2
Developing countries	30.6	45.6
Least developed countries	17.2	22.3
China	b/	52.0

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Measured in 1990 prices and exchange rates.

b/ Data unavailable.

67. In many developing countries, new lines of production altered the distribution of resources over the entire economy as manufacturing was built up from a relatively small foundation. The rapid growth of manufacturing in some developing countries points to the importance of both the external and the domestic environment. A sharp rise of manufacturing in East Asia benefited from gradual economic liberalization, and rising domestic demand for consumer durables. 51/ In this region and other areas of Asia, burgeoning international trade and foreign direct investment helped to sustain rapid growth in manufacturing. 52/

68. Table 10 provides an overview of the regional growth of manufacturing from 1960 to 1992. Technology-intensive manufacturing expanded rapidly in the countries of North America, Europe and East Asia and the Pacific. In the developed market economies, the increase in the share of technology-intensive manufacturing reflects a shift away from non-technology-intensive consumer durables and commodity intermediates towards high-technology, knowledge-intensive products such as specialty chemicals and drugs, semiconductors and computers, and telecommunications equipment based on fibre optics, light wave technology and advanced engineering.

Table 10. Growth of manufacturing value added in the world economy, 1961-1992

(Average annual rates: percentage)

	Technology-oriented manufacturing branches			Non-technology-oriented manufacturing branches			Total manufacturing value added			GDP		
	1961-1973	1974-1982	1983-1992	1961-1973	1974-1982	1983-1992	1961-1973	1974-1982	1983-1992	1961-1973	1974-1982	1983-1992
World	5.8	2.0	2.5	4.6	0.9	1.5	5.2	1.5	2.1	5.4	2.5	2.5
Developed market economies	5.3	1.0	2.6	4.1	-0.5	1.6	4.8	0.4	2.2	4.9	2.0	2.8
Economies in transition	7.8	7.0	-1.3	5.2	4.6	-1.5	6.3	5.7	-1.4	6.8	3.7	-0.7
Developing countries	10.4	4.7	5.0	7.4	4.4	2.9	8.5	4.5	3.8	7.1	3.7	3.4
Least developed countries	5.8	1.9	5.4	3.5	1.7	4.9	3.9	1.8	5.0	3.0	2.9	2.4
China	a/	3.8	8.1	a/	5.2	6.3	a/	4.6	7.2	7.3	6.8	9.0

Source: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

a/ Data unavailable.

69. In the developing countries, except for some countries in Latin America, the shares of both technology-intensive and non-technology-intensive manufacturing in GDP have risen since 1960. Indeed, by 1992, the share of manufacturing value added in GDP in many countries in East Asia exceeded the average figure for the developed market economies. The share of technology-intensive activities increased from 31 per cent of the developing countries' manufacturing value added in 1960 to more than 45 per cent by 1992 (table 9) and a noticeable shift towards heavy manufacturing has occurred as production of cement and fertilizers and petroleum-refining expanded rapidly. In Latin America, manufacturing capacity has risen relatively rapidly in chemicals, iron and steel and metal products.

World trade

70. The increasing global integration of production is characterized by a dramatic increase in world trade in relation to world output, an even greater increase of foreign direct investment (FDI) and liberalization of world trade. As the proportion of world production entering international commerce doubled from 10 per cent in 1960 to 20 per cent in 1992, the composition of world trade shifted away from primary products towards manufactures and services; by 1992, almost 75 per cent of the value of world merchandise trade was in manufactures, up from 40 per cent during the 1950s. 53/ For the developing countries, the share of manufactures in the value of their merchandise exports increased from less than 10 per cent in the 1950s to 60 per cent in the 1990s.

71. The long-term tendency for international trade to increase as a share of world production accelerated significantly during the last decade. During the period from the mid-1970s to the mid-1980s, the apparent elasticity of world trade, measured by the ratio of the rate of growth of world trade to the rate of growth of world production, averaged 1.3: world trade increased 3.9 per cent per year and gross world product rose 3 per cent per year; but following the recovery from the recession of the early 1980s, the elasticity rose to an average of 2.5 from the mid-1980s into the mid-1990s.

72. In the earlier period, international trade grew faster than production in the economically advanced countries but slower than production in the developing countries. Indeed, trade increased rapidly in South and East Asia but contracted or grew very slowly in Africa and West Asia. In Latin America and West Asia, rates of growth of both imports and production declined but rates of growth of exports increased or were maintained. Since 1985, the rapid growth of the external sector has been broad-based. In the developing countries, the growth rate of exports of goods and non-factor services rose from an average of 1¼ per cent per year from 1975 to 1985 to an average of 7¼ per cent per year from 1986 to the mid-1990s.

73. The export orientation of some developing countries has also become apparent with the rapidly increasing shares of exports in their GDP. 54/ Moreover, the export orientation of many developing countries has been changing towards manufactured goods. While the value of intra-developing countries' trade has expanded rapidly, it still accounts for only about 10 per cent of the world's trade.

74. The East Asian countries, excluding China, doubled their nominal share of world exports in 1990 as compared with 1975. If China is included, this group's share of world exports is estimated to be over 13 per cent in 1995. While the Latin American countries' nominal share of world exports decreased over this period, their share of world exports of manufactures increased. Overall, the developing countries' nominal share of world manufacturing exports rose about 8 percentage points between 1975 and 1995. 55/ Similarly, while the developed market economies produce over 60 per cent of total world exports of food and beverages, a few developing countries have done well in these markets. Chile, for example, has significantly expanded its export mix beyond high reliance on copper so as to include significant amounts of fruits and vegetables. 56/ Quality standards for agricultural commodities, like manufactures, have become standardized in international markets, requiring technology-intensive inputs such as seed genetics and pest control, and related personnel training in techniques such as precise timing of inputs. This introduction of higher technology into agriculture can also provide a bridge so as to introduce technology-intensive manufacturing in the developing countries, while stimulating labour-intensive activities.

75. The world's invisibles trade 57/ expanded rapidly, reaching about $2 trillion in 1992 (table 11), or almost two thirds as much as world merchandise trade (table 12). Producer services such as banking, insurance, communication, information, engineering and management consulting experienced the greatest dynamism. The share of dynamic but volatile investment income has remained high, at around 40 per cent since 1981 (table 13). In contrast with the early 1980s, when interest payments on loans to the developing countries skyrocketed, the increase in investment income since the late 1980s is mostly attributed to the surge in non-debt capital flows. 58/ If investment income was excluded, the share of services trade in world commerce would increase from about 24 per cent in 1980 to about 30 per cent in 1992.

Table 11. World invisibles trade, 1975-1992

(Billions of United States dollars)

	1975	1980	1992
Invisibles receipts	288.4	700.0	1 964.2
Service receipts	172.1	363.1	936.7
Transportation receipts	59.3	122.9	227.0
Travel receipts	39.4	85.9	262.8
Other service receipts	73.4	154.3	446.8
Other private service	57.7	123.0	396.6
Investment income receipts	87.1	269.7	849.1
Transfer receipts	29.3	67.2	178.4

Source: IMF.

Note: Data account for 87 countries for which full sets of data were available on five invisibles trade components in IMF balance-of-payments data.

Table 12. Ratio of total invisibles exports and service exports to merchandise exports for selected country groups

(Percentage)

	1975	1980	1992
		World	
Invisibles trade receipts	42.9	46.7	63.3
Service receipts	25.6	24.2	30.2
		Developed market economies	
Invisibles trade receipts	44.4	49.1	67.1
Service receipts	26.6	25.4	30.9
		Developing countries	
Invisibles trade receipts	35.5	35.8	44.0
Service receipts	20.7	19.2	26.5
		Oil-importing developing countries	
Invisibles trade receipts	47.5	42.5	46.8
Service receipts	27.7	23.0	28.6
		Oil-exporting developing countries	
Invisibles trade receipts	12.9	13.1	19.0
Service receipts	7.5	6.1	8.0

Source: IMF.

Table 13. Structure of world invisibles trade in terms of share of exports, 1975 and 1992

(Percentage)

	World		Developed countries		Developing countries	
	1975	1992	1975	1992	1975	1992
Invisible receipts	100.0	100.0	100.0	100.0	100.0	100.0
Service receipts	59.7	47.7	59.9	46.1	58.3	60.3
Transportation receipts	20.6	11.6	21.3	11.1	16.3	15.0
Travel receipts	13.7	13.4	12.9	12.4	18.2	21.3
Other service receipts	25.4	22.7	25.7	22.6	23.8	24.0
Other private services	19.9	20.2	20.4	20.0	17.2	21.3
Investment income receipts	30.2	43.2	32.6	46.6	15.6	16.9
Transfer receipts	10.2	9.1	7.5	7.3	26.1	22.8

Source: IMF.

76. Invisibles trade has become more sophisticated and diverse along with the "service revolution" in more advanced economies. As information technology is applied to a wider range of economic activities, knowledge-intensive services tend to be embodied in products, while others "splinter out". 59/ The increasing possibility of unbundling and outsourcing these specialized services contributes to the intensification of services and widens the scope for services trade. Advances in information technology also increasingly relax the proximity constraint on long-distance services such as financial services, data transmission, management and technical consulting. The construction of a global information superhighway 60/ will support the trade in related services, and stimulate other international transactions, by lowering the costs of information transmission. The expanding operations of transnational corporations along with liberalization of the institutional environment are also conducive to the expansion of trade in supportive services such as transportation, communications, technical and management services.

77. The developed market economies still account for 88 per cent of total world invisibles trade; in 1992, the share of the United States alone was one and a half times the share of the developing countries. Of the top 30 countries in invisibles trade, only 7 were developing economies: 5 of them were in Asia. Indeed, the ratio of invisibles trade to merchandise exports in the developing countries is lower than in the developed market economies (table 12). Also, except for several Asian economies and oil-exporting countries, the composition of invisibles trade remained static (table 13). Travel and labour exports, including workers' remittances, remained important in many developing countries.

China, Indonesia, Singapore, Thailand and Mexico each earned between $3 billion and $6 billion from travel in 1992, while labour-related receipts in the developing countries as a whole were about $60 billion. 61/

78. Most developing countries are not yet competitive in sophisticated, high-value-added segments of services trade. However, in an increasing number of developing countries, with the accumulation of physical and human capital, technology and management know-how, the domestic base for more sophisticated services is being developed. The surge in service-related FDI facilitates this process; by the late 1980s, their share was close to 60 per cent of annual world FDI flows. 62/ The ongoing outsourcing of services, combined with the development of long-distance services, suggests a new possibility for the developing countries with respect to participating in the labour-intensive segment of dynamic information-intensive activities, such as software development and data processing. The potential for long-distance service exports is considerable; the total business-service exports of the developing countries, which currently amount to about $180 billion, 63/ will possibly double by 2010.

79. Despite some reductions, barriers to invisibles trade are still much higher than those affecting merchandise trade. 64/ In the long term, implementation of the General Agreement on Trade in Services (GATS) is expected to provide new momentum to the liberalization of trade in the service sector. The reduction or elimination of these impediments would not only directly raise services trade but also, by allowing freer movements of production factors, help to improve efficiency of other sectors. 65/ The dynamic role of FDI in services trade is also expected to increase further as the "right of establishment" is secured in an increasing number of service markets within the framework of the World Trade Organization. 66/ However, in view of exceptions, exemptions and safeguards in the GATS, the process is expected to be slow with initial progress limited to services trade among the developed market economies and several of the more advanced developing countries.

80. The implementation of World Trade Organization agreements, together with domestic adjustments, is expected to have a stronger impact on the growth of invisibles trade than on that of merchandise trade. Advances in information technology will continue to set in motion new cycles of applications in many countries. As a result, trade in information-intensive services is expected to grow fast. However, owing to the conflict of interests between countries and the time required for domestic adjustments, as well as the concentration of technological advances in a limited number of sectors and countries, the impetus to invisibles trade from these developments is likely to be stretched over a longer period and be uneven across countries. 67/ Nevertheless, the globalization of service transactions opens a new challenge with respect to the catching-up process for the developing countries.

81. Implementation of the agreements should also improve the efficiency of the world economy. From quantitative assessments, the potential gains from the agreements, based on several simulation studies, are increases ranging from 1 to 1.7 per cent in world GDP in the year 2005 (see box). All the studies found that most of the economies in the world would benefit from multilateral trade liberalization. 68/ Its impact on the world's income should be even greater

than what is to be expected from the classical efficiency improvements arising from a better international allocation of resources. Dynamic economies of scale and technology dissemination through international trade should augment the direct efficiency gains.

Potential gains from the Uruguay Round of multilateral trade negotiations agreements

Study and its assumptions a/	Major findings
1. General Agreement on Tariffs and Trade (GATT) b/	
Trade liberalization was based on market access offers as of 19 November 1993; liberalization of tariff equivalents of Multi-Fibre Arrangement (MFA) quotas; 20 per cent cuts in tariff equivalents agricultural production subsidies; and 36 per cent cuts in tariff equivalents agricultural border measures	Increase in world GDP $230 billion or 1 per cent Includes gains from induced capital accumulation Increase in world merchandise exports, $745 billion or 12 per cent. Gains were measured in 2005, expressed in 1992 dollars
2. Nguyen, Perroni and Wigle c/	
In agriculture, all producer subsidy equivalents were cut by 30 per cent, all border measures were cut by 40 per cent in high-income regions, and all border measures were cut by 20 per cent in low-income regions. The MFA was completely eliminated for textiles and apparel. In manufactures, tariffs were cut by 30 per cent, with deeper cuts in non-tariff barriers (NTBs) for high-technology goods and basic intermediates. In services, tariff equivalents of NTBs were cut by 40 per cent	Increase in world GDP, $212 billion Increase in world merchandise exports, 20 per cent Gains were measured in 2005, expressed in 1992 dollars
3. OECD d/	
Tariffs and ad valorem equivalents of NTBs were reduced by 36 per cent in manufactures, agricultural goods and other imported goods. Information on tariffs and NTBs at the tariff line level were utilized	Increase in world GDP, $274 billion Increase in world merchandise exports Gains were measured in 2002

4. Project LINK e/	
In the developed market economies, a tariff reduction of 36 per cent on industrial products (the weighted average tariff rate cut from the pre-Uruguay Round 6.4 per cent to 4.0 per cent); a 36 per cent cut on the equivalents of NTBs for industrial products; a 34 per cent cut on the tariff equivalents for agricultural products and about a 20 per cent decrease in export subsidies and domestic supports in the agricultural sector; and a cut of about 40 per cent in NTBs in services trade In the developing countries, excluding the least developed countries, a 20 per cent cut on the tariff equivalents on agricultural products No assumptions are made for the economies in transition	Increase in world GDP, $400 billion or 1.7 per cent Increase in world exports, 5 per cent Gains were measured by 2005

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a/ For other comparative studies see Global Economic Prospects and the Developing Countries (World Bank, 1995), pp. 29-42.

b/ GATT secretariat, "An analysis of the proposed Uruguay Round agreement, with particular emphasis on aspects of interest to developing countries" (Geneva, 1993).

c/ T. Nguyen, C. Perroni and R. Wigle, "An evaluation of the draft final act of the Uruguay Round", Economic Journal, vol. 103 (1993).

d/ OECD, Assessing the Effects of the Uruguay Round (Paris, 1993).

e/ P. Hong, "International economic implications of the Uruguay Round reconsidered: a LINK simulation study", paper presented at the Project LINK 1994 fall meeting, Spain, 1994.

82. Side-effects from implementation of the agreements may include increased prices for agricultural goods, owing to reduction of subsidies and other production supports, so that some net-food-importing developing economies may have to reduce their imports. A short-term negative effect on employment may also occur in some economies. National policies to reduce domestic economic distortions could enhance the gains from trade liberalization and outweigh such short-term negative effects, if any occur. However, long-term global success in implementation of the agreements will require sustained international cooperation. Meanwhile, some new forms of trade friction that were not dealt with in the Uruguay Round may emerge. The Uruguay Round should be the beginning, rather than the end, of an ongoing effort to counteract the "new protectionism".

83. The formation of new regional trade groups, such as the establishment of the North American Free Trade Agreement (NAFTA) and the Southern Cone Common Market (MERCOSUR) Customs Union of Argentina, Brazil, Paraguay and Uruguay contributed to fears of potential trade diversion and, between groups, protectionism. 69/ If this is the case, the developing countries that are not members of large regional groupings would suffer. If, for example, the European Union (EU), the largest import market, moves towards protectionism, then the rest of the world will probably follow. 70/ NAFTA has set into motion an initiative to allow potential entry into the Agreement by other South American countries by the year 2005. 71/ However, even if more or larger regional trade groups are formed, this can be viewed as an intermediate step towards a true world-wide free-trade system, because the groups are likely to specialize to a considerable degree. Thus trade between regions will probably increase, even if there is an initial tendency towards trade diversion. 72/

Food production

84. Global agricultural output will continue to grow, producing enough food for the entire population; but while global per capita food supplies have been increasing and the number of undernourished people has been declining, it has been estimated that as many as 780 million persons still go hungry every day and this number is expected to decline by only 150 million between 1988-1990 and 2010. 73/

85. The rate at which food requirements are rising is declining somewhat. As in the past, most of the production increases of the future will come from higher yields. In all developing regions, higher yields will account for more than half of the expected increase in output between now and 2010 - in Asia for even 80 per cent. In sub-Saharan Africa, East Asia, and Latin America, expansion of arable land will account for about 30 per cent of the output increase. At a global level, food production, with the exception of fish, is not likely to be limited by major environmental and resource constraints. However, these constraints are important in a number of countries and new technologies, training, institutions, regulation, and changes in incentives are needed to reduce pressures on resources resulting from agriculture in order to create a sustainable development of agriculture.

86. The Food and Agriculture Organization of the United Nations (FAO) estimates that daily calorie supplies in the developing world will increase from nearly

2,500 per capita at the present time to just over 2,700 by the year 2010; this compares with about 3,400 calories in the developed countries. 74/ However, chronic undernourishment will remain rampant in sub-Saharan Africa, which will probably overtake South Asia as the region with the largest number of undernourished persons in absolute terms.

87. Increasing food production is one of the most important means to improve food security. Africa is the only region where food production per capita has been declining since the early 1970s. While Asia and Latin America have seen large gains in food production since the mid-1960s as a result of the increased use of new high-yielding varieties, Africa has hardly benefited from the type of green revolution that has changed agriculture in Asia. 75/ This can be largely attributed to a lack of seeds suitable to African conditions, weak local research capacity and a poorly developed support system to encourage technology adoption. The development of infrastructure and institutions that provide extension services, seeds and credit - in particular to smallholders - are requisites of agricultural development in Africa. In addition, research is needed to develop low-risk and low-cost seed varieties for rain-fed agriculture that do not need many external inputs, such as pesticides and fertilizers, and are resistant to drought and disease.

88. Public, international research is crucial in this regard as commercial interest in typical African food crops is small because they are neither consumed, nor grown in developed countries, and are little exported. Moreover, domestic research capacity in Africa itself is too weak. Funding for the international agricultural research centres (IARCs) under the umbrella of the Consultative Group on International Agricultural Research (CGIAR) has been reduced, however. This decline in international public funding for agricultural research is part of an overall shifting of research expenditure to the private sector which has been driven in part by the strengthening of protection of intellectual property rights.

89. While output of research is increasingly protected under intellectual property rights agreements, inputs to research have not been recognized under any current property-rights system. To counterbalance this asymmetry, the concept of farmers' rights has been developed and endorsed in FAO Conference resolutions. This concept can be applied to the germplasm collections of IARCs which were recently placed under the auspices of FAO. The revenues that can be raised from the gene banks of the IARCs could be used to finance research to promote a green revolution in Africa. 76/

Energy and sustainable development

90. During the past 20 years, considerable knowledge has been acquired about the relationship between the environment and development. The scope of environmental issues broadened, in both space and time, beyond what had previously been conceived. Global changes such as desertification of productive lands, destruction of tropical forests and potential global warming, and the erosion of the ozone layer in the upper atmosphere could radically alter the planet and threaten the survival of many species, including human beings. It is now understood that many forms of development can erode the environmental

now understood that many forms of development can erode the environmental resources upon which they are based, while environmental degradation can undermine economic development.

91. These concerns motivated the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992. Its consensus and political commitments as reflected in Agenda 21, 77/ the Rio Declaration on Environment and Development, 78/ and other documents and agreements highlighted the urgency of achieving environmentally sustainable development; and Agenda 21 considered a large number of environmental issues, including their socio-economic dimensions and possible solutions, and their means of implementation.

Climate change

92. Knowledge about the relationship between heat-trapping gases in the atmosphere and the Earth's climate has advanced considerably during the past 10 years. Few scientists now doubt that continued emission of these gases will raise the average temperature of the Earth's biosphere. Modelling studies indicate that the average temperature may rise 1.5°C-4.5°C in response to the doubling of the carbon dioxide (CO_2) level from its pre-industrial level. Global annual emissions of CO_2 from fossil fuel burning rose to 5.9 billion tons of carbon in 1992 79/ from 2.4 billion tons in 1960. If the use of fossil fuels continues to grow, these emissions could reach 8.8 billion tons per year in 2010 80/ (table 14).

Table 14. Emissions of CO_2 from fossil fuel combustion

(Billions of tons of carbon)

				2010	
	1960	1973	1992	Low	High
Developed market economies	1.47	2.65	2.84	2.53	3.29
Economies in transition	0.56	1.01	1.18	1.38	1.57
Developing countries	0.38	0.68	1.83	3.20	3.98
World	2.41	4.34	5.85	7.11	8.83
Cumulative amount since late nineteenth century	82	125	222	338	354

Sources: Historical figures: Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, Energy Statistics Yearbook; projections: report of the Secretary-General on structural change in the world economy: implications for energy use and air emissions (A/47/388); cumulative: based on the methodology of the Analysis Center, Oak Ridge National Laboratory.

93. Under this scenario, the cumulative carbon emissions since the late nineteenth century will be 354 billion tons in 2010, a figure 60 per cent higher than that in 1992. As a result, the atmospheric CO_2 concentration would increase from its pre-industrial level of 280 parts per million (ppm) to 400 in 2010. 81/

94. The ratification of the 1992 United Nations Framework Convention on Climate Change (A/AC.237/18 (Part II)/Add.1, annex I) is an early response of the international community to the threat of global warming. Under its auspices, Governments of developed countries committed themselves to stabilizing CO_2 emissions at their 1990 levels by the year 2000. However, in almost all developed countries, fossil fuel consumption is still increasing.

95. Solutions to energy-related environmental problems are wide-ranging, but the use of environmentally sound energy technologies, and the promotion of improved energy efficiency and conservation have emerged as the most practicable means of reducing CO_2 emissions. There is considerable potential for improving energy efficiency in all country groups. For example, losses in the transmission and distribution of power are often unacceptably high in developing countries, accounting for up to one third of the total power generated; but technologies converting energy more efficiently, particularly in the power generation sector, already exist. Investment in new technologies and in energy efficiency through upgrading and rehabilitation of power stations and transmission lines would add to the electricity supply, lower power generation costs, and minimize environmental impact.

96. Carbon tax tradable permits and other economic instruments are among the newly proposed measures of CO_2 reduction. 82/ The use of such economic instruments for environmental objectives has increased in developed countries over the last decade. 83/ The experience with carbon taxes shows that they can be practical, but special provisions are often required and found useful, such as tax ceilings and rebates for the sectors most sensitive to energy prices and incentives for investments in energy-saving equipment. These economic measures offer new policy options to be considered together with more conventional measures of pollution abatement, such as direct control of emission and governmental programmes of technology development.

Trends in energy demand

97. Currently about half of the world's population has little access to commercial energy, as many developing countries continue to depend on traditional fuels such as wood and animal wastes. By 2010, when the world's population is projected to reach 7 billion, 5.8 billion are expected to live in today's developing regions. This poses the question whether the demand for energy will surge prodigiously, and whether several billion people will continue to lack adequate access to energy.

98. Available projections indicate that world fossil fuel consumption may well reach 11.0 billion tons of oil equivalent in 2010 (table 15). Fossil fuels are expected to remain the dominant source of energy in 2010, and oil is expected to account for over 40 per cent of total fossil fuels in that scenario.

Table 15. Projections of world primary energy demand

(Billions of tons of oil equivalent per year)

Source of forecast		1990	2000	2010
Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat a/	Low	6.9	7.9	8.7
	High	6.9	8.9	11.0
World Energy Council b/		8.8		13.4 c/
International Energy Agency d/		7.8	9.1	11.6
United States Department of Energy e/		8.3	10.4	13.0

a/ Fossil fuels (coal, oil and natural gas) only (source: report of the Secretary-General: structural change in the world economy: implications for energy use and air emissions (A/47/388)).

b/ Figures indicate all primary energy sources, including traditional fuels and new and renewable sources of energy (source: World Energy Council, Energy for Tomorrow's World, 993, p. 277, table C4a.

c/ Referring to the year 2020.

d/ International Energy Agency, World Energy Outlook 1994, p. 233, table A5. Figure shown in the 1990 column is IEA estimate for 1991.

e/ United States Department of Energy, International Energy Outlook 1994. Figures include new and renewable sources of energy.

99. The projections indicate that in 2010, the developing countries will account for 43 per cent of world commercial energy consumption, the figure being up from 14 per cent in 1960. About 70 per cent of the net increase in global energy demand is expected to come from the developing countries. Not only their population growth but also urbanization and other changes in living standards and lifestyles stimulate the shift of energy use from traditional to commercial fuels, particularly oil and electricity. 84/ None the less, in the developing countries as a whole, per capita consumption of commercial energy is expected to remain less than one fifth of that in the developed countries in 2010: in sub-Saharan Africa it will be less than one thirtieth of the North American level.

100. The adequacy of remaining energy reserves, especially oil, has been a topic of major controversy between resource optimists and resource pessimists for a long time. Estimates of the recoverable reserves of oil have grown considerably since the end of the Second World War, with several estimates having an upper range of 3,000-5,000 billion barrels. Since the late 1970s, however, the upper range of estimates has been greatly reduced. Recent estimates have converged to values between 1,800 and 2,700 billion barrels. One reason for this convergence is the recognition that the vast majority of recoverable oil reserves are

located in a very small number of fields. There are about 600 sedimentary provinces in the world, but seven "super provinces" contain more than two thirds of the known recoverable conventional petroleum liquids, and one "megaprovince", the Arabian-Iranian province in the Persian Gulf, contains nearly half of all known oil resources. 85/

101. World cumulative production is estimated at 640 billion barrels. A reasonable estimate of remaining oil is 1,650 billion barrels, consisting of 976 billion barrels of proved reserves, and 674 billion barrels of probable reserve additions. 86/ At the present rate of world oil production of 23 billion barrels per year, the world's remaining oil is adequate for 72 years; and if oil demand continues to grow at 2 per cent per year, it could last for 45 years. 87/

V. CONCLUSIONS

102. Concerted action at the national and international levels could turn potentially serious problems into benefits for the present and future inhabitants of the world.

103. Even though the rate of world population growth is slowing down, prolonged large increments in its total size will require ongoing policy efforts to facilitate the supply of adequate education, employment, health care and financial support, as appropriate for various age groups and in countries at different stages of development. Following the guidelines established at the International Conference on Population and Development, policies at the national level, supported in appropriate cases by the international community, can reduce the growth rate of population, improve health, particularly for infants, children and their mothers, and assure a healthier and more satisfying life for the ageing members of the population. To deal effectively with continuing pressures - economic, social, political and environmental - for rapid international migration, especially from developing to developed countries, the international community should increase its efforts to promote rapid, equitable, sustained and sustainable development of the developing countries.

104. Technological innovations will continue to set in motion new cycles of product development, which will spread across countries and change their competitiveness. The commitment of countries to the principles of free trade and international cooperation is critical to this process. The globalization of an increasing variety of economic activities poses new opportunities and challenges for catching up by the developing countries and the economies in transition. The conclusion of the Uruguay Round of multilateral trade negotiations is a hopeful portent that the international community can keep abreast of the rapid evolution of the global production and trade systems with appropriate international accords.

105. The world will continue to produce enough food for its entire population. However, policy action is required to ease environmental constraints in certain regions and to generate a green revolution in Africa, which will soon be the region with the largest number of undernourished people.

106. The atmospheric concentration of CO_2 due to growing energy consumption is expected to be considerably higher in 2010 than in the early 1990s. The adherence to international agreements on the environment is of crucial importance.

107. The implementation of international agreements on all the issues mentioned - including trade, the environment, human rights and such apparently technical issues as intellectual property rights and the protection of foreign investment - will not only help individuals and societies that are directly affected, but will also create a more stable environment that will foster progress and development.

Notes

1/ Overall Socio-economic Perspective of the World Economy to the Year 2000 (ST/ESA/215) (United Nations publication, Sales No. E.90.II.C.2 and corrigendum).

2/ World Population Prospects, The 1994 Revision (United Nations publication, Sales No. E.95.XIII.16), table A.1.

3/ As defined by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, the less developed regions comprise all regions of Africa, Latin America, Asia (excluding Japan), and Melanesia, Micronesia and Polynesia. The more developed regions comprise northern America, Japan, Europe, Australia and New Zealand. (Europe is defined here to include much of the former Union of Soviet Socialist Republics, namely the Baltic States, Belarus, the Republic of Moldova, the Russian Federation and Ukraine. The rest of the former Soviet Union is classified as part of Asia, and thus of the less developed regions.)

4/ Under the medium-fertility variant of the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat. The average increase is expected to fall slightly to about 85 million per year after 2015.

The (compound) rate of increase from 1990 to 1995 was about 1.57 per cent per annum - significantly below the 1.73 per cent rate at which it had been growing for the previous decade and a half (1975-1990), and considerably lower than the 1.68 per cent rate expected for this period by the United Nations in 1992 (see World Population Prospects: The 1992 Revision (United Nations publication, Sales No. E.94.XIII.7 "World total annual rate of change (percentage)", table A.2). (A rate of 1.71 was expected in World Population Prospects, 1988 (United Nations publication, Sales No. E.88.XIII.7), table 2.1, the database year for the 1990 perspective report (ST/ESA/215)). This resumes the trend of declining growth rates that prevailed from the mid-1960s to the mid-1970s.

5/ The economies in transition, in this report, comprise those in Central and eastern Europe and in the former Soviet Union.

6/ The total population of eastern Europe is estimated to have declined by 1.7 million between 1990 and 1995 (from 310.4 million to 308.7 million (World Population Prospects, The 1994 Revision, annex table A.2)), as a result of net losses in Belarus, Bulgaria, the Czech Republic, Hungary, Romania, the Russian Federation and Ukraine. In other regions of Europe, net losses have also been estimated for Estonia, Latvia, Lithuania, Bosnia and Herzegovina, Croatia and Portugal in the past five years.

7/ In some sub-Saharan African countries, new demographic surveys or censuses have found recent declines in fertility; fertility also is declining faster than previously expected for Zambia, Zimbabwe and the Gambia, and for Algeria and Morocco in North Africa. New data indicate that a rapid fertility transition is also occurring in the Islamic Republic of Iran, and is continuing in Bangladesh and Nepal.

8/ WHO estimates that over 4.5 million actual AIDS cases have occurred world wide and that about 19.5 million people have been infected with human immunodeficiency virus (HIV) since the pandemic began. About 13-15 million adults infected with HIV were estimated to be alive, world wide, as of late 1994; over 8 million of these were in sub-Saharan Africa (WHO Global Programme on AIDS, The Current Global Situation of the HIV/AIDS Pandemic (WHO, 3 January 1995)).

Uganda, Zambia and Zimbabwe exhibit the highest HIV seroprevalence levels; and their populations in 2005 are expected to be 6-7 per cent less than they would have been in the absence of AIDS. Loss of five or more potential years of life has already occurred in these countries and Kenya. For Zimbabwe, life expectancy at birth is currently estimated at 54 years, which is seven years lower than it would have been without AIDS; for example, the corresponding figure is 49 years, which is again seven years lower than it would have been without AIDS.

9/ Other variants prepared by the Population Division show that world population could be as low as 7.4 billion in 2020 and 7.9 billion in 2050, or as high as 8.4 billion in 2020 and 11.9 billion in 2050. For comparison, the central scenario of the International Institute for Applied Systems Analysis (IIASA) puts world population at 8.4 billion in 2020 and 11.2 billion in 2050. Other IIASA scenarios show world population as high as 15 billion in 2050 (high fertility, low mortality), or as low as 8.3 billion (low fertility, high mortality). The differential effect on total population, comparing "high" and "low" scenarios for fertility, is about twice as large as the effect as regards "high" versus "low" mortality (The Future Population of the World, Wolfgang Lutz, ed. (London, Earthscan Publications, 1994), appendices A and B).

10/ This section is based mainly on selected sections of The World Health Report, 1995 (Geneva, WHO, 1995), supplemented by data from World Population Prospects, the 1994 Revision (United Nations publication, Sales No. E.95.XIII.16), annex tables, prepared by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

11/ Some 8 million infants in the developing world died in 1993 (based on data from World Population Prospects, The 1994 Revision, supplementary tabulations).

12/ This section is based mainly on The World Health Report, 1995 (Geneva, World Health Organization, 1995), supplemented by data from the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat, World Population Prospects, The 1994 Revision, annex tables.

13/ Two of the cruellest burdens facing the elderly are dementia, particularly Alzheimer's disease, and the crippling pain of rheumatism and arthritis. Neither condition is amenable to cure, and both can destroy a person's quality of life, place huge burdens on relatives and other caretakers and take up immense amounts of resources for health care and social services. Dementia is believed to affect at least 22 million people world wide. The prevalence of rheumatoid arthritis in different populations has been estimated at 1-5 per cent; an average prevalence of 3 per cent would amount to about 165 million people. Also common in the elderly is osteoporosis, or bone-thinning disease, which makes people much more prone to bone fractures. Around one third of all women over age 50 are affected by it.

14/ For more extensive discussion of social security issues related to the elderly and other segments of society, see World Economic and Social Survey, 1995 (United Nations publication, Sales No. E.95.II.C.1), chap. XV. For detailed consideration of financial and other economic aspects of support for the elderly, see The World Bank, Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth, A World Bank Policy Research Report (Oxford University Press, 1994).

15/ This section is based on document E/1995/69, sects. I and II.

16/ The estimates of the number of international migrants in the different world regions are produced by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat and are only available for 1965, 1975 and 1985. A full set of estimates is presented in Trends in the Total Migrant Stock, 1994, database maintained by the Population Division of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat.

17/ H. Zlotnik, "International migration: causes and effects", in Beyond the Numbers, Laurie Ann Mazur, ed. (Washington, D.C., Island Press, 1994), pp. 362-363.

18/ A. Vichnevski and J. Zayontchkovkaia, "L'émigration de l'ex-Union Soviétique: premices et inconnues", Revue européenne des migrations internationales (Poitiers, France), vol. 7, No. 3 (1991), pp. 5-30.

19/ In the early 1990s, Japan was estimated to be hosting nearly 300,000 undocumented migrants in addition to the million or so foreign residents legally present in the country, and Taiwan Province of China was said to host about 45,000 undocumented migrants. In the Republic of Korea, a regularization drive

carried out in 1992 produced 61,000 applications; and in Malaysia, 320,000 undocumented migrants applied for legalization under an amnesty programme implemented in 1992. (See Peter Stalker, The Work of Strangers: A Survey of International Labour Migration (Geneva, International Labour Office, 1994).)

20/ Studies on the United States have concluded that immigrants do not depress the wages of native workers, mostly because migrants and natives do not compete for the same jobs. In addition, the evidence does not support the claim that minority groups are more likely to see their wages affected negatively by the presence of migrants.

21/ In Australia, for instance, it has been estimated that in fiscal year 1985/86, the ratio of taxes received by the State to welfare benefits paid to qualifying persons stood at 2.31 for non-migrants and only slightly lower, at 2.18, for migrants. In the United States, studies that quantify the level of public revenues and expenditures associated with the presence of migrants have tended to be inconclusive. The methodological problems inherent in such studies are unlikely to be resolved without recourse to adequate data on the numbers and types of migrants present at the local level, the use that they actually make of public services, and their contribution to government revenue at national, state and local levels.

22/ See F. Prieto, "Acuerdo multilateral para el comercio de servicios", in La Rondo Uruguay y el Desarrollo de América Latina, P. Leiva, ed. (Santiago de Chile, Centro Latinoamericano de Economía y Política Internacional, 1994), pp. 295-313; The General Agreement on Trade in Services (GATS) and Related Instruments (Geneva, General Agreement on Tariffs and Trade, 1993).

23/ M. M. Kritz and F. Caces, "Science and technology transfers and migration flows", in International Migration Systems: A Global Approach, M. M. Kritz, L. L. Lim and H. Zlotnik, eds. (Oxford, United Kingdom), Clarendon Press, 1992); and L. Cormode, "Japanese foreign direct investment and the circulation of personnel from Japan to Canada", in Population Migration and the Changing World Order, W. T. S. Gould and A. M. Findlay, eds. (New York, John Wiley and Sons, 1994).

24/ Since 1970, corporations based mostly in developed countries have been exporting capital rather than importing labour in order to reduce labour costs and open new markets. The establishment of Japanese subsidiaries abroad, mainly in the newly industrialized economies of Eastern and South-eastern Asia, has not prevented the emergence of unmet labour demands in Japan itself and the ensuing rise of migrant inflows.

25/ See United States Commission for the Study of International Migration and Cooperative Economic Development, Unauthorized Migration: An Economic Development Response (Washington, D.C., United States Government Printing Office, 1990).

26/ Despite their success in maintaining strong economic growth, areas such as the Republic of Korea and Taiwan Province of China have been major sources of emigrants, as have Indonesia, Malaysia and Thailand, all members of the second generation of newly industrialized economies.

27/ "Elaboration of the International Development Strategy for the Fourth United Nations Development Decade: summary of the updated report of the Secretary-General on the Overall Socio-economic Perspective of the World Economy to the Year 2000" (A/AC.232/7). The full report was issued under document symbol ST/ESA/215.

28/ Both nominal and real long-term interest rates were 1.5 percentage points lower in 1990-1994 than in 1985-1989.

29/ For example, electronic transactions in world foreign exchange markets have increased the volume of currencies traded to a level that is far beyond the capacity of any central bank to intervene; "virtual cooperation" is changing the organizational structure for many firms; and the phenomenal expansion of the Internet will challenge the conventional concept of borders.

30/ Robert J. Barro and Xavier Sala i Martin, "Convergence across States and regions", Brookings Papers on Economic Activity (1), 1991; "Convergence", Journal of Political Economy (April 1991); and Steve Dowrick and Duc-Tho Nguyen, "OECD comparative economic growth 1950-85: catch-up and convergence", American Economic Review (December 1989).

31/ When countries were grouped into those that qualified as open politically and economically and those that did not so qualify, there was clear evidence of convergence, as measured by a negative and significant relationship between initial income per head and subsequent growth, for the group of countries that qualified. For the "non-qualifiers", there was no significant convergence. Furthermore, each of the policy variables played a role in determining growth rates. However, of the 35 "qualifying" countries, only 13 were developing countries and only 2, Mauritius and Morocco, were in Africa. Of the 82 non-qualifiers (which for that period included all the economies in transition), only 2 could conceivably be classified as developed - Israel and South Africa (Jeffrey D. Sachs and Andrew M. Warner, Economic Convergence and Economic Policies, National Bureau of Economic Research Working Paper 5039 (Cambridge, Massachusetts, February 1995).

32/ Douglass C. North, "Economic performance through time", American Economic Review, vol. 84 (June 1994), p. 366.

33/ Data for England and France in 1790 show that the bottom 20 per cent of the population subsisted on such poor diets that they were effectively excluded from the labour force, with many of them lacking the energy even for a few hours of strolling. This appeared to be the principal factor explaining why beggars constituted as much as a fifth of the population in that era. Another calculation, whereby labour input is adjusted for intensity (measured by calories), demonstrates that improved gross nutrition accounted for roughly 30 per cent of the growth of per capita income in Britain between 1790 and 1980. See Robert W. Fogel "Economic growth, population theory, and psychology: the bearing of long-term processes on the making of economic policy", American Economic Review (June 1994), pp. 373-374 and p. 386.

34/ In the high-world growth projections, greater emphasis is given to improvements in the efficiency with which investment generates economic growth than to a rise in investment.

35/ Trade flows are perhaps the most important factor determining the balance-of-payments constraint on economic growth. At present, central and eastern European economies suffer from substantial asymmetries in both income and price elasticities of their exports and imports. Owing to the technology gap vis-à-vis western European economies, their exports have to compete in the lower-income, but more price-elastic, products category, while their imports are concentrated in the higher-income, but less price-elastic, products category.

36/ See J. McCombie and A. Thirwall, Economic Growth and the Balance-of-Payments Constraint (London, St. Martin's Press, 1994).

37/ The declines in real fixed investments between 1989 and 1993 were substantial in the transition economies. The level of fixed investments in 1993 expressed as a proportion of that in 1989 was 35 per cent in Bulgaria, 14 per cent in Croatia, 81 per cent in the Czech Republic, 80 per cent in Hungary, 39 per cent in Romania, and 59 per cent in Slovakia; the corresponding ratios for the Russian Federation and Ukraine from 1990 to 1994 were 35 per cent and 30 per cent respectively. The only exception was Poland, where real fixed investments increased slightly during this period. (Calculations are based on figures in Economic Survey of Europe in 1994-1995 (United Nations publication, Sales No. E.95.II.E.1), table 3.2.13.) Prepared by the secretariat of the Economic Commission for Europe (ECE), Geneva, 1995.

38/ M. A. Landesmann, "Balance of payments constrained growth in Eastern Europe", paper presented at Project LINK meeting in March 1994.

39/ The cumulative total gross foreign direct investment (FDI) between 1988 and 1994 was $6.9 billion in Hungary and $3.3 billion in the Czech Republic. The same figure for the transition economies of central and eastern Europe as a whole, including the European successor States of the former Union of Soviet Socialist Republics, was $19 billion. The per capita FDI in 1994 in Hungary was $670 and in the Czech Republic it was $319. The average for the transition economies of central and eastern Europe in the same year was $58. (See Economic Survey of Europe in 1994-1995 (United Nations publication, Sales No. E.95.II.E.1), table 3.7.5. Prepared by the secretariat of ECE, Geneva, 1995.)

40/ Simulations show that under optimistic assumptions, including nearly complete EU membership for the central and eastern European countries and a full utilization of the benefits of membership, the lead central and eastern European countries in terms of per capita GDP, namely, the Czech Republic, Hungary, Slovakia, and Slovenia, could reach 58-73 per cent of the EU average GDP per capita within 15 years. If central and eastern European-EU trade relations was to deteriorate, the countries would reach 49-64 per cent of the EU average per capita income by 2008, and their average growth rate of GDP over the next 10-13 years would be 1.2-1.7 percentage points less than if the recent trend of liberalization was to continue. (See Landesmann, loc. cit.)

41/ See the technical note to the World Economic and Social Survey, 1994 (United Nations publication, Sales No. E.94.II.C.1 and corrigendum), which compared estimates of GDP per capita of different countries converted to a common unit of account using four alternative exchange rate methods: market exchange rates, purchasing-power parity rates, relative 1970-1991 price adjusted rates of exchange, and World Bank Atlas conversion rates.

42/ No single measure can capture all the dimensions of poverty. Nevertheless, the poverty threshold level of GDP per capita is usually derived from the cost of a basic basket of goods and services that is required to remain above the subsistence level. A detailed example of these calculations is given in P. S. Intal, "The state of poverty in the Philippines: an overview", in Understanding Poverty and Inequity in the Philippines, P. S. Intal and M. C. S. Bantilan, eds. (Philippines, National Economic and Development Authority, and UNDP, 1994).

43/ See Frida Johansen, Poverty Reduction in East Asia: The Silent Revolution, Discussion Paper No. 203 (Washington, D.C., World Bank, 1992).

44/ See India: Poverty, Employment and Social Services, A World Bank Country Study, Report No. 7617-IN (World Bank, 1990).

45/ See World Economic and Social Survey, 1994, chap. I, subsection on "Poverty and inequality".

46/ See Economic Commission for Latin America and the Caribbean (ECLAC), Social Panorama of Latin America, 1994 (LC/G.1844), p. 44.

47/ See Economic Commission for Latin America and the Caribbean, Changing Production Patterns with Social Equity (ECLAC, 1990).

48/ Ibid., p. 34.

49/ See ECLAC, Social Panorama of Latin America, 1994 (LC/G.1844), p. 44.

50/ Much of this expansion in production was associated with exports of "new" manufactured products comprising office machines and automatic data-processing equipment, telecommunications equipment and transistors and other semiconductors. International trade in "new" manufactured products is discussed in World Economic and Social Survey, 1995 (United Nations publication, Sales No. E.95.II.C.1). At the same time, automation and new process developments, such as roller spinning and shuttleless looms, have significantly improved productivity in the textile and garment industries (World Bank, Managing Restructuring in the Textile and Garment Subsector: Examples from Asia, S. D. Meyanathan, ed. (World Bank, 1994)).

51/ After China's progressive modernization and industrialization, its manufacturing industries expanded from 27 to 44 per cent and its agricultural industries shrank from 42 to 24 per cent during 1970-1990 (UNIDO, China Towards Sustainable Industrial Growth (Cambridge, Basil Blackwell, Ltd., 1991)).

52/ During 1982-1987, the share in the world's foreign direct investment inflows was about 9 per cent for newly industrialized economies, 0.3 per cent for least developed countries, and 13 per cent for the rest of the developing countries (computed from UNCTAD, World Investment Report, 1994: Transnational Corporations, Employment and the Workplace (United Nations publication, Sales No. E.94.II.A.14), annex table 1. During 1962-1987, the accumulated number of patents granted by the United States per million population in 1980 were 76.8 to Hong Kong, 72.4 to Taiwan Province of China, 31.5 to Singapore and 18.8 to Mexico, as compared with an average of 4.9 to petroleum-exporting countries, 1.2 to least developed countries and 4.3 to other developing countries. Such averages were computed from a sample of only 2 least developed countries, 4 petroleum-exporting countries and 17 other developing countries (UNCTAD, "Transfer and development of technology in a changing world environment: the challenges of the 1990s" (TD/B/C.6/153), January 1991, p. 18).

53/ Current trends in merchandise trade are discussed in World Economic and Social Survey, 1995 (United Nations publication, Sales No. E.95.II.C.1).

54/ Countries that had the highest growth rates of GDP tended to follow an export orientation policy. For the period 1975 to 1990, only 20 countries out of 140 had average annual growth rates greater than 5 per cent. Of these, 18 countries increased their exports' share in GDP. In an effort to explain differences in growth rates among countries, the Endogenous Growth Theory School hypothesized that the neoclassical growth model needed to be extended to include endogenized technology. For details see P. Romer, "The origins of endogenous growth", Journal of Economic Perspective (winter 1994).

55/ If the price of petroleum had not decreased about 50 per cent from 1981 to 1990, the share of the developing countries in total merchandise trade also would have increased, instead of decreasing slightly from about 27 per cent in 1975 to an estimated 25 per cent in 1995.

56/ See C. Arnade and A. Sparks, "Chile's agriculture diversification", Agriculture Economics, 9 (1993). The share of food and beverages in Chile's exports rose from 10 per cent in 1975 to 30 per cent in 1990.

57/ There is no consensus definition of services, nor consistency between the concept of services in balance-of-payments statistics and that in national account statistics. The data analysed in this section follow the convention of the Balance of Payments Manual, 5th ed. (Washington, D.C., IMF, 1993) of the International Monetary Fund (IMF), 1993. Although IMF statistics at the aggregate level are broadly comparable across countries, there are still sizeable global discrepancies. Invisibles trade includes both factor and non-factor services.

58/ UNCTAD, World Investment Report, 1994: Transnational Corporations, Employment and the Workplace (United Nations publication, Sales No. E.94.II.A.14), table I.4. After a decline from the peak at the height of the debt crisis in 1982, the share of investment income in invisibles began to rise again in 1988, with surging capital flows to Asia and Latin America. FDI inflows into developing countries increased fivefold from 1986 to 1993, and

accounted for 41 per cent of global FDI in 1993 (ibid., chap. II, sect. B, introduction).

59/ J. N. Bhagwati, "Splintering and disembodiment of services and developing countries", The World Economy, vol. 7 (1984).

60/ Many developed countries have begun to develop national networks similar to the one under way in the United States, namely the National Information Infrastructure Project. There is a move towards integrated global networks through carrier partnership. By establishing working relationships with each other, information services are expected to accelerate their globalization (United States Department of Commerce, U.S. Industrial Outlook 1994).

61/ In Egypt, labour-related exports were almost twice as large as merchandise exports in 1993. In Bangladesh, Jordan and Morocco, they account for 50 per cent, 87 per cent and 59 per cent of their respective merchandise exports. As labour exports represent almost 100 per cent net gain in foreign exchange, the contribution of labour exports to the balance of payments in many developing countries is substantial.

62/ See UNCTAD, Explaining and Forecasting Regional Flows of Foreign Direct Investment (ST/CTC/SER.A/26) UNCTAD, 1993. In the developing countries, a major part of service-related FDI is in offshore financial centres and flag-of-convenience countries; but even if these investments are excluded, their service-related FDI increased over time (Transnational Corporations in World Development: Trends and Prospects (ST/CTC/89 and Corr.1) (United Nations publication, Sales No. E.88.II.A.7 and Corr.1), chap. XXI, sect. A.2).

63/ Global Economic Prospects and the Developing Countries (World Bank, 1995), p. 43.

64/ The barriers take the form of direct controls on cross-border movements of services and service-related investment, or indirect controls such as domestic regulations on banking, administrative procedures, taxes and qualifications for professional services. The efforts in Europe to construct a fully integrated electronic market for information services have been impeded by legal and administrative barriers. Examples of barriers in telecommunication include restrictions on the resale of leased circuit capacity, on the connection of leased lines to the public network, and on the provisions of data services, licensing and investment (United States Department of Commerce, U.S. Industrial Outlook 1994).

65/ For example, the removal of controls on the movement of both FDI and portfolio capital, together with regulatory reforms in domestic financial markets, has facilitated the globalization of financial transactions. As a result, supportive professional service trade increased rapidly.

66/ In the United States, sales of services to foreigners through majority-owned affiliates of United States companies abroad were the equivalent of 85 per cent of United States exports of services over 1986-1992 (World Bank,

Global Economic Prospects and the Developing Countries (World Bank, 1995)), p. 48.

67/ The developing countries, except in a few industries such as tourism, have not made much of a commitment yet.

68/ The Uruguay Round of multilateral trade negotiations cut many traditional tariffs and reduced or removed some non-tariff barriers such as export subsidies, production supports and voluntary export restraints. It also dealt with other important aspects of trade for the first time, such as trade-related services, intellectual property rights and trade-related investment.

69/ In its last year of operation, the General Agreement on Tariffs and Trade (GATT) reported in Regionalism and the World Trading System (World Trade Organization, 1995) that it had been notified of 108 regional trading arrangements, 33 within the last five years.

70/ Between 1975 and 1980, intra-EU trade accounted for about 50 per cent of their overall exports and this share rose to 58 per cent by 1990. It has been pointed out that priority in EU is given to internal cohesion, at least for the time being (N. Scott, "Protectionism in Western Europe", in Protectionism and World Welfare, D. Salvatore, ed. (Cambridge University Press, 1993)).

71/ Some analysts argue that this region has moved towards a protective environment (D. Salvatore, "Trade protection and welfare in the United States", in Protection and World Welfare, D. Salvatore, ed. (Cambridge University Press, 1993)).

72/ Regionalism and the World Trading System (Geneva, World Trade Organization, 1995).

73/ Agriculture: Towards 2010 (Rome, FAO, 1993), p. 64.

74/ Ibid.

75/ For example, yields of cereals and roots and tubers in Africa are about half of yields in South America and Asia. Yields of pulses are similar.

76/ World Economic and Social Survey, 1995 (United Nations publication, Sales No. E.95.II.C.1), box VII.2.

77/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

78/ Ibid., annex I.

79/ In addition, it is estimated that in 1990 approximately 0.15 billion tons of carbon were generated from the cement manufacturing processes and 0.6-2.6 billion tons from land-use changes, mainly due to felling and burning of standing trees. (Climate Change 1992, The Supplementary Report to the

Intergovernmental Panel on Climate Change (IPCC) Scientific Assessment (Cambridge University Press, 1992)).

80/ Report of the Secretary-General on structural change in the world economy: implications for energy use and air emissions (A/47/388), 7 October 1992.

81/ This estimate assumes that the rise in CO_2 concentrations from the background pre-industrial level of 280 ppm by volume will be proportional to the cumulative CO_2 emission.

82/ There are a number of advantages of economic instruments over "command and control" methods of CO_2 emissions' reduction. They make it possible to attain targets at lower cost because the market allows for firms and individuals to choose the most economical ways to achieve a particular goal (static efficiency); and they also can stimulate innovations in the areas of energy efficiency and pollution reduction (dynamic efficiency). Some economists also argue that carbon and other environmental taxes could lead to large gains in both welfare and wealth. Conventional tax structures, which depend heavily on income and profit, impose efficiency costs on the economy because they discourage activities that are desirable to the economy, like hard work and saving. By switching the tax base from income and profit to pollution, the economy could be richer and cleaner at the same time. See OECD, Taxation and the Environment, Complementary Policies (OECD, 1993); and Robert Repetto and others, Green Fees (World Resource Institute, 1992).

83/ Carbon taxes and related taxes have been introduced in Denmark, Finland, the Netherlands, Norway and Sweden.

84/ The historical data indicate that the apparent income elasticity of energy demand rises as industrialization begins but declines later on. In the developing countries as a whole, the elasticity was 1.5 for the period between 1973 and 1992. In the developed countries, on the other hand, it was just 0.16 in the same period. In the scenario, the elasticity in the developing countries is expected to decline, averaging 1.2 between 1990 and 2000 and 0.7 between 2000 and 2010.

85/ Resource optimists argue that the price of oil is the driving force that determines the long-run supply of oil, so that production will follow prices. On the other hand, resource pessimists emphasize the non-renewable nature of oil; over time, oil production should fall. In the United States, oil production peaked in 1970, after which the United States could not satisfy its growing demand by increasing production from low-cost fields. Instead, it had to rely increasingly on imports which contributed to the sharp increases in world oil prices during the 1970s and early 1980s; but it turned out that global demand continued to be satisfied from low-cost fields, including major new ones in Indonesia, Nigeria and the former USSR. Eventually, the world will reach the peak of its production from low-cost fields. Then, the relative price of oil will rise so as to bring demand into line with supply, making it feasible for energy producers to make use of high-cost fields and to invest in alternative energy sources.

86/ Report of the Secretary-General on changing global energy patterns (E/C.13/1994/2), 15 December 1993.

87/ By the same token, the adequacy of the world's natural gas resources is estimated as spanning approximately 100 years. The adequacy of hard coal resources is considered to be much greater - spanning more than 1,000 years at the present rate of resource extraction.